# INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/016436

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] C12N9/18, C12N1/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] C12N9/18, C12N1/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
JSTPlus(STN), WPI/BIOSIS(DIALOG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | C.J. ROSSINI et al., Use of in-situ atomic force microscopy to monitor the biodegradation of polyhydroxyalkanoates (PHAs)., Macromol. Symp. (2001), Vol.167, pages 139 to 151 | 1-9 |
| Y | A. MANNA et al., Degradation of poly(3-hydroxybutyrate) by soil streptomycetes., World J. Microbiol.Biotechnol. (1999), Vol.15, No.6, pages 705 to 709 | 1-9 |
| Y | M. TANSENGCO and I, DOGMA Jr., Microbial degradation of poly-β-hydroxybutyrate using landfill soils., Acta Biotechnol. (1999), Vol.19, No.3, pages 191 to ~~230~~ 203 | 1-9 |

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 29 November, 2004 (29.11.04) | 21 December, 2004 (21.12.04) |
| Name and mailing address of the ISA/ Japanese Patent Office | Authorized officer |
| Facsimile No. | Telephone No. |

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | H.J. KIM et al., Characterization of an extracellular medium-chain-length poly (3-hydroxyalkanoate) depolymerase from Streptomyces sp. KJ-72., Antonie van Leeuwenhoek (2003 May), Vol.83, No.2, pages 183 to 189 | 1-9 |
| Y | K. SEI et al., Design of PCR primers and a gene probe for extensive detection of poly(3-hydroxybutyrate) (PHB)-degrading bacteria possessing fibronectin type III linker type-PHB depolymerases., Appl.Microbiol.Biotechnol. (2001), Vol.55, No.6, pages 801 to 806 | 1-9 |
| Y | JP 10-191980 A (Taisei Corp.), 28 July, 1998 (28.07.98), & EP 863209 A2 & US 5968801 A | 1-9 |
| Y | JP 7-155180 A (Snow Brand Milk Products Co., Ltd.), 20 June, 1995 (20.06.95), (Family: none) | 1-9 |
| P,X | B.P. CALABIA and Y, TOKIWA, Microbial degradation of poly(D-3-hydroxybutyrate) by a new thermophilic Streptomyces isolate., Biotechnol.Lett. (2004, January), Vol.26, No.1, pages 15 to 19 | 1-9 |
| P,X | Y. TOKIWA and B.P., CALABIA, Degradation of microbial polyesters., Biotechnol.Lett. (2004, August), Vol.26, No.15, pages 1181 to 1189 | 1-9 |